

3. (Currently amended) The probe as defined by claim 2 wherein the conducting medium comprises tissue.

4. (Currently amended) The probe as defined by claim 2 wherein the conducting medium comprises fluid.

5. (Original) The probe as defined by claim 2 wherein the number of electrodes exceeds two.

6. (Original) The probe as defined by claim 5 wherein the electrodes are carried by a catheter.

7. (Original) The probe as defined by claim 6 wherein electrodes are rings around the circumference of the catheter.

8. (Original) The probe as defined by claim 6 wherein the electrodes are extendable from and retractable within the catheter.

9. (Original) The probe as defined by claim 2 wherein the electrodes are carried by a catheter.

10. (Original) The probe as defined by claim 9 wherein the electrodes are rings around the circumference of the catheter.

β 11. (Original) The probe as defined by claim 9 wherein the electrodes are extendable from and retractable within the catheter.

12. (Original) The probe as defined by claim 2 wherein the electrodes comprise needles.

13. (Currently amended) A method of imaging a region of interest including a conducting medium in an object comprising the steps of:

(a) placing the object in a static magnetic field.

(b) applying RF excitation pulses to the region of interest, and

(c) detecting magnetic resonance signals from the region of interest with an array of at least two spaced electrodes in proximity to the region of interest, distal ends of the electrodes being spaced apart and disconnected.

14. (Previously cancelled).

15. (Currently amended) The method as defined by claim 13 wherein step (c) includes using electrodes that comprise needles.

16. (Currently amended) The method as defined by claim 13 wherein step (c) includes using the electrodes that are carried by a catheter.

17. (Currently amended) The method as defined by claim 16 wherein step (c) includes using electrodes that comprise rings around the circumference of the catheter.

β¹ 18. (Currently amended) The method as defined by claim 16 wherein step (c) includes using electrodes that are extendable from and retractable within the catheter.